

Security Information

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VOLUME 11 - INVESTIGATION AND SECRETALY

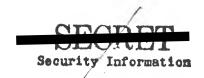
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FOREIGN INTELLICENCE SUPPLIMENT NO. 3

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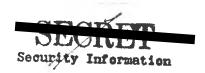
TO

HAMHATTAN DISTRICT HISTORY

BOOK I - GENERAL

VOLUME 14 - INTELLIGENCE AND SECURITY





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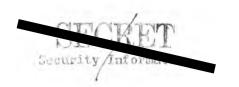
This supplement presents an account of the action taken, in the United States and in Europe, with respect to the possibility of the use by the Germans of radioactive materials as a weapon; the whole subject was componly referred to by the code word "Peppermint".

Although this supplement was written more than eight years after the events which it describes, it was drafted by the man who was principally concerned, Lt. Colonel (then Rajor) A. V. Peterson, CE, and was based on his personal recollections and on documents which existed or originated during the time the events occurred. The documents referred to in the text are listed in an appendix to this supplement.

31 July 1952







FUREIGN INTELLIGENCE SUFFLIERT ID. 2

TO

HAMMATTAN DISTRICT HISTORY, BOOK I, VOL. 14 INTELLICENCE AND SECURITY

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HAMHATTAN DISTRICT HISTORY, BOOK I, VOL. MA

1. Introduction.

a. During the years 1912 and 1913 the scientists of the Nanhattan District expressed serious concern regarding the possibility of Ceranny's saking rapid progress in nuclear developments for military purposes. That a nuclear weapon could constitute one of Germany's beasted secret weapons appeared plaucible in view of the possibility that work on atomic energy had been started in Germany on a large scale prior to the entry of the United States into the war. Specific knowledge of the status of German scientific research was not obtained until the invasion of Germany was well underway. (See Foreign Intelligence Supplement No. 1 to this volume.)

Early in the United States atomic energy program, therefore, it was felt to be importative that action be taken to provent the surprise use of muclear weapons by the energy and to establish some practicable measures for minimizing their effects if they were used.

b. It was appreciated that nuclear developments by the energy might be directed toward either the production of atomic bombs or the production of radioactive raterials to be used as contaminating agents, or both. Supplement No. 1 is concerned with the general investigation of nuclear developments in Correct, with particular emphasis on atomic book activities. This Supplement is concerned with the action taken regarding



the possible use by Curpeny of radioactive conteminants.

2. Preparations in the United States.

a. In the United States, from the time that the concept of the chain reaction foreshadowed the large-scale production of radioactive materials, it was recognized that radioactivity could be employed as a military weapon. Early consideration was given, by various scientists, to the contemnation which could be effected by production reactors them envisaged and to the development of instruments for detecting and measuring radioactivity. When the Hambattan District assumed responsibility for the program, therefore, some work along these lines was in progress; but the military interest in radioactivity, particularly from the standpoint of defence against it, served to stimulate the effort.

b. A program was initiated, at a high priority, in the fall of 1952, for the development of instruments for field use. This program was undertaken principally by the Netallargical Laboratory at Chicago and by the Victorean Instrument Company at Cheveland. By the surser of 1953 a moder of alarm, survey and location meters were developed and built by the Setallargical Laboratory and were held available for use; also, his survey meters were developed and built by the Victorean Instrument Company. Of these latter improvents, 2k had a range of 0 to 10 reentgens per day and 2k had a range of 0 to 200 reentgens per day.

During the susser of 1953, under highest secrecy to prevent under alarm, a set of instruments was located at each of the Hambattan District Offices in Boston, Chicago, New York, San Francisco and Mashington, D. C., where,





in each case, the respective Area Engineer and a limited number of officers were instructed in their purpose and use. (App., Ref. No. 1.) In addition, a reserve supply of instruments was hold in readiness in Chicago, and qualified scientists from the Notallurgical Laboratory and other laboratories were prepared to proceed to the scene of suspected radioactive attack, to assist in locating and measuring any activity present and in interpreting data. In setting up this program, it was intended that surveys would be made in the event of the besting of any city in the United States or in the event that indications were received of large-scale blackening of films or of actraordinarily high background readings on scientific instruments.

c. It was fully understood that these steps were minimal.

During 1912 and 1913, the possible use of radioactive enterials by Germany was considered at several S-1 Committee meetings. During the Summer of 1913, a subcommittee of the S-1 Committee, headed by Dr. James D. Commit. evaluated the use of radioactive materials as a weapon. (App., Bef. No. 2.) The sub-committee concluded that while the use of radioactive materials by Germany appeared plausible, the use against the United States itself appeared remote. Nevertheless, the sub-committee concurred in taking reasonable steps, such as those outlined above, to be prepared to identify and act upon indications of the presence of radioactive saterials in the United States.

3. Preservations in the United Kingdom.

a. Information available in December 1943 on the possible use of redicactive materials by the energ indicated that while the use of





radioactive materials against the United Kingdom was possible, it was unlikely. On the other hand, it was felt that if the materials were amployed the decage would be great, and that the possibility could not be ignored. It was believed that reasonable, simple procautions should be taken in the United Eingdom to prevent complete surprise in the event that radioactive materials were used by the energy.

b. At the recommendation of Ceneral Groves, and with the concurrence of the Chief of Staff, General Harshall, in December 1953, four officers on temporary duty in the United States, from the European Theater of Operations' staff in the United Kingdom, were briefed on the use of redicactive natorials as a military weapon. The briefing was combated by Hajor A. V. Peterson at Chicago, Illinois, under most complete senrecy, and included the use of the materials, the probability of their use, the offects, american and treatment, and the known defense measures. (Appe. Ref. No. 3.) The officers were instructed to report the nature of the problem to the Commiding Ceneral of the American Forces in the United ringdom. (App., Ref. No. la) As a memo of preventing complete surprise in the event the materials were used against installations in the United Kingdom, the officers were requested to recommend that the Signal Officer, the Air Officer, and the Medical Officer report any peculiar or unexplained effects on film or personnel of which they might become mare. Also, each of the four officers was given a set of radiation instruments, for the purpose of conducting surveys for location and intensity of radiation in ouse the use or suspected use of radioactive materials were reported. The four officers were:



Colonel P. H. Timethy, Chief, Engineer Section, FUSAC (First U. S. Army Cronp)

Colonel E. S. Gruver, Executive Officer, Ordnance Section, ETOUSA (European Theater of Operations, U. S. Army)

Colonel E. T. Fell, Chief, Claims Commission, ETOUSA Captain M. J. Bedlinger, C-3 Section, FUSAG.

The subject was brought to the attention of General J. L. Devere, Commanding Coneral, European Theater of Operations, U. S. Army, and the following members of his staff, in December 1913:

General D. Barr, Crief of Staff, E70USA

Central P. R. Smaley, Chief Surgeon, ESCESA

Compred B. L. Sibert, Assistant Chief of Staff, 6-2, EROUSA

Colonel J. W. Castles, Deputy Assistant Cadef of Staff, Col.

Colonel E. W. Jervoy, Director, Army Pictorial Service, SOS, ETOESA

also, Colonel G. E. Conred, the later became Assistant Chief of Staff, G.2, FROUSA, the given information on the subject.

- c. The immediate action taken at Headquarters, European Theater of Commutions, was as follows:
- (1) A monorandum was dispatched from the office of the Chief Surgeon, END, to all U. S. commands requesting reports of certain specified symptoms related to an "epidemic disease of unknown etiology".

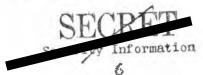
 (App., Ref. No. 5.)
- (2) A removandum was dispatched from the office of the Chief Signal Officer to all agencies and commands of the Army Pictorial Service





requesting reports of unexplained fogging of film. (App., Ref. No. 6.)

- (3) It was arranged that reports of use or suspected use of radioactive naturals would be given by any of the above-mentioned officers to the four officers equipped with instruments so that surveys could be undertaken at once.
- (4) A central file on the subject was kept by the Secretary of the Chief of Staff, ETOUSA, for access only by certain specified officers.
- d. Early replies to the inquiry concerning fogged film did not point to say expected action on the part of the enery and it was not known whether symptoms of any "unusual opidemic disease" were ever reported. After a number of surveys of newly berbed areas were made without result, it was agreed at Headquarters, ETO, that surveys would be made only in the event that the use of radioactive materials was more positively indicated or suspected. (App., Ref. Ro. 7.)
- o. In Narch 1914, Cemeral Croves felt that the subject in question should be brought to the attention of the Commanding Cemeral, SHAEF (Supreme Headquarters Allied Expeditionary Force), to prevent surprise and confusion in the event that radioactive materials were used by the energy during the immedian. At this time Consral Croves substituted a memorandum to the Chief of Staff on the possible use of radioactive material by the Germans and recommended that General Eigenhower be informed of the situation.
- f. With the concurrence of General Marshall, Major A. V. Peterson was sent to the United Mingdon in April 1984, to inform





Constal Misenhouser of the developments. (App., Ref. No. C.) On O April 1914, Najor Peterson reported to Constal Risenhouser and briefed him and the following members of his staff on the possible employment of radio-setive materials by the energy during the impending invasions

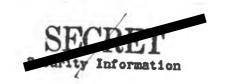
Lt. Comerci W. D. Smith, Chilef of Staff, SHAFF

General J. F. M. Whiteley (Smithsh), Assistant Chief
of Staff, C-2, SHAFF

Maj. General H. R. Dull, Assistant Chief of Staff, G-1, SHAFF.

considered, but General Whiteley felt that the British could take no action until the question had been more thoroughly evaluated. Fending a decimion by the British, the Supreme Headquarters requested ETOISA to prepare a plan of operation for the American Forces. The responsibility for its preparation was delegated to Colonel G. S. Eyster, Assistant Chief of Staff, G-3, ETOUSA. A plan under the code name "Poppermint" was prepared, calling for the following general action to be taken in the United Kingdom (App., Bef. No. 9):

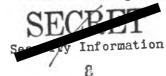
- (1) Centralization of all detection equipment and detailed knowledge of the nature of the problems in Headquarters, ETOUSA.
- (2) Establishment of a means for the initial detection and implementation of the project.
- (3) Establishment of effective channels for the prompt report of its implementation to G-3, HTOUSA, for further action by that Beadquarters.



of the senior communis in the European Theater without delay and for briefing certain staff officers of the Corps and divisions of the First U. S. Army (FUSA). The senior communis involved were: European Theater of Operations, U. S. Army (ETOUSA); First U. S. Army (FUSA); First U. S. Strutegic and Taction! Air Force (USSTAF); TX Air Force; Southern Base Section; Communior U. S. Inval Forces in Europe. (CUMBAVEU); and Task Force 122, U. S. Navy. At this time also, paralleling actions which had been taken in December 1913 and January 1914, monorands were sent to the major currends requesting reports of unemplained blackening of photographic film and certain specific clinical symptoms and medical cases. (App., Ref. Bo. 10.)

h. Subsequently, the British decided to follow a plan similar to the American plan, but recommended that detailed briefings remain with the highest handquarters. SHAEF agreed with this recommendation and the EFCUSA plan was revised accordingly. (App., Ref. No. 11.) The overall plan, therefore, called for individual action by the American and British forces, with coordination, if necessary, by SHAEF.

- i. The final plan for the American forces, Operation "Perpendint", provided for (App., Ref. No. 12):
- (1) Briefing specified officers of Headquarters of: European Theater of Operations, U. S. Army (ETOUSA); Corrender US Neval Forces in Europe (CONTAVEU); and U. S. Strategic and, Tactical Air Force (USSTAF).
- (2) Charging the Assistant Chief of Staff, G-3, ENUESA, with General Staff coordination and supervision of "Peppermint".





- (3) Charging the Chemical Warfare Service officer, ETOUSA, with the operation of detecting equipment incidental to "Peppermint", and centralizing all such equipment under his control; also, charging him with close coordination with the Chief Surgeon, ETOUSA.
- (4) Charging the Chief Surgeon, ETCUSA, with reporting indications of employment of "Peppermint" as evidenced by clinical symptoms and blackening of film; elso, charging him with treatment of clinical cases and advising on basards and protective measures.
- (5) Charging the Chief Signal Officer, ETOUSA, with reporting evidence of unexplained fogging or blackening of film and with the repair and maintenance of special detecting instruments and equipment.
- (6) Prompt reporting by the featest means available of indications of the employment of "Peppermint" to the Commanding Ceneral. Beadquarters, ETOUSA, attention of Assistant Chief of Staff, G-3, by reference to the code mass.
- j. Detailed plans were made for surveying critical areas upon receipt of reports of the suspected use of radioactive materials by the enemy and for taking action for the treatment and protection of personnel. Detailed plans were made as well for notifying Ceneral Croves, for the dispatch of trained technical personnel and additional instruments held in readiness in the United States. In addition, it was contexplated that, when the exployment of radioactive naterials was known to have occurred, the cooperation of the Cavendish Laboratories at Cambridge University would be obtained in helping to identify the specific types of material used.



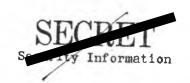
to the equipment and supplies taken to the European Theater consisted of 1500 film packets, li survey noters, and one Geiger counter, as well as a calibrating source and a number of spare parts. Personnel in the offices of the Theater Chardcal and Signal Officers were instructed in the use, care and maintenance of this equipment. Equipment hold in the United States roady for shipment to the Commanding General, European Theater of Operations, with highest air priority, consisted of 1500 film packets, 25 survey moters and 5 Geiger counters. Also, the completion of 200 more survey meters and 25 more Geiger counters was expected during Engr 1984.

Le Dry runs of Operation "Peppermint" were made by Readquarters.

Charical Warfare Survice, ETOUSA, irrediately prior to the invasion of Normandy, in order to test the plan and the functioning of the equipment, as well as to give experience to the operating personnal. Asrial and ground surveys were made of bombed areas along the coast of England and at troop and supply concentration centers.

m. No evidence was found of the use of radioactive materials by the Germans, so that it was nover necessary to put the operation into effect. After the operation of hostilities, the equipment and the highly classified documents relating to Operation "Poppermint" were collected and placed in the custody of the Namhattan Project.





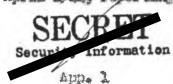
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TO

HARRATTAN DISTRICT RESTORS, BOOK I, WOL. LL INTELLIGENCE AND SECURITY

(All referenced documents located in the Manhattan District files.)

- 1. Appendix TV (A. V. Peterson) of a report emittled "Badicactive Material as a Hilitary Resport", propared under direction of A. H. Compton.
- 2. Esport entitled "Indicactive Naterial as a Hilitary Meapon", prepared under direction of A. E. Compton, written expressly for the sub-countities of the S-i Committee headed by Pr. J. B. Commit.
- 3. Hammal on Use of Redicactive Materials in Verfore, dated 16 December 1943, prepared for the use of the four officers in the U. K.
- Le Letter from Acting Chief of Staff to Lt. General J. L. Devers (copy uninted), advising res special duties assigned to four officers.
- 5. Letter, Office of Chief Surgeon, 29 December 1913, to: Surgeon, First Army; Surgeon, Eighth Air Force; Surgeon, Hinth Air Force; Surgeons, All Hospitals; Subject: Report of Epidemic Discope.
- 6. Resortation from Office of Chief Signal Officer, ETOUSA, dated 7 January 1914, to all Signal Corps photographic agencies to report immediately cases of unexplained fogging of photographic film.
- 7. Henorandum from Hajor Herry S. Traybor, CS, to Haj. General L. R. Groves, dated 11 April 1914, reporting on instruments.





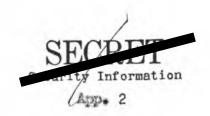
8. Hesorandum from Hajor A. V. Peterson, CE, to Haj. General L. R. Groves, dated 18 May 1914, subject: "Operation 'Peppermint'", containing detailed account of Hajor Feterson's assignment in the European Theater.

9. Attachment IV to Reference No. 8 (see above).

10. Administrative Memoranda Soc. 58 ami 60, dated 3 May 1914, from Office of the Chief Surgeon, ETC, to: Surgeon, FUSAG; Surgeons, FUSA ami TUSA; Surgeon, USSTAF; Surgeons, All Ease Sections; Communing Officers, All EaseItals. Also, neutrandom, dated 27 April 1914, from Director, Army Fictorial Division, to all agencies of the Army Fictorial Service.

11. Attachments X, XI, and XII, to Reference No. 8 (see above).

12. Renoranium, dated 6 May 1966, subject: Signal Corps Flan for Operation "Peppermint", from Chief Signal Officer, ETC, to the Community Concret, ETC, Attention 6-3. Also, managements, dated 15 May 1966, subject: Operational Flan for Implementation of Peppermint, from the Chief Chemical Officer to the Deputy Thanter Community, Attention Mc/S. 6-3.





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Foreston in ending supplement no. 3

TO

MALITY VEVAIL DESPRIESS (SA TRESTORE)

POOR I - CEMERAL

WOLLDE IL - IMPELLIOSNOS AND SECURITY







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This supplement precents a brief account of the export control activities of the Hanhatten District, principally during the period between the announcement of the development of the atomic bonb, in August 1915, and the transfer of these activities to the Atomic Energy Corression, at midnight on 31 December 1916.

The supplement was written nearly three years after the earl of the period with which it is concerned, but it was drafted by Fr. Alten F. Dennell, meshated by Fr. Lyull E. Johnson, both of whom had been closely concerned with the activities described. Both had served as Army Expers with the Hembattan District and Hejer Donnell had served as the hand of the District's amount control activities.

The detailed information was confirmed by reference to documentary saterial of an earlier date, a monorandom to the Atomic Energy Cormission, dated 18 December 1916, prepared for Major General I. R. Groves by Major Donnell.

Naverber 1919







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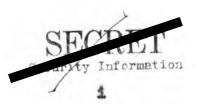
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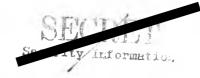
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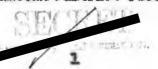
HARMATTAN DISTRICT HISTORY, BOOK 1, VOL. 11: INTELLICENCE AND SECURITY

PARTY CONTROL ACCURATE

1. Introduction.

After the dropping of the two atomic books on Japan in August 1915, and after the occasion of hostilities which followed, it was a mecessary objective of the intolligence role of the Hammatian District to keep abreast of the activities of other countries in the atomic energy field and to determine the trend of their efforts. Watching closely the inquiries on, and the purchases of, natorial and equipment by foreign countries, from United States sanofacturers and suppliers, was a logical phase of this effort. This activity, had been carried on during the war and it expanded greatly in importance when the ness of the United States development of the atomic book was released. Thus, the export control activities of the Nanhattan District began as an intelligence function but developed, as brought out later in this supplement, into an actual control as the situations distated.

For a few months following the war, the intelligence work was done primarily by the Manhattan District security officers, on instructions from the Mashington office. They were abled greatly by the voluntary action of the Project contractors, who were well aware of the concern of the Project contractors, who were well aware of



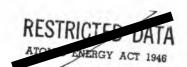


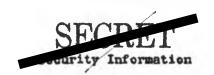
interests. This form of liaison, a direct contact between the Project representatives and the namelacturers who had been working on some phase of the development of the atomic borb, was very effective; but, with the consention of inetallities and the termination of the many contracts, the close contact was no longer maintained and it became apparent that the liankattan District must take the initiative in maintaining the former liaison and in establishing new liaison with other companies who were capable of supplying similar critical naterials. Accordingly, early in 1966, one offices, it. George A. Rugg, was assigned the responsibility for this effort, as a masher of the Washington Intelligence Office. In the fall of that year, upon the return of it. Rugg to civilian status, major Alton P. Donnell was assigned this responsibility. These officers were free to call on the other Security and Intelligence personnel as might be necessary.

2. Continuation and Development of Liaison.

The immediate work in continuing the Fanhattan District policies can be broken down into four important phases. One was the formalisation of the limitson with manufacturers and the establishment of channels for its continuation. The second was the extension of the limitson to afford a complete coverage of any critical industry, whether or not any company in such an industry had previously been in contact with the Manhattan District. The third phase was the establishment of a limitson with various Coverment agencies that could be helpful, again an extension of previous Manhattan District activity. The fourth phase required a thorough study of the technical aspects of all phases of the Manhattan District work to







assure that all critical items were included under the liaison system.

a. First Phase.

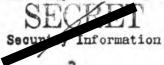
The first phase required the setting up of a formal contact with a marker of Fanhattan District contractors, for the purpose of formalizing the lisison and establishing charmels for its continuation.

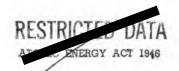
These contractors could be grouped in several categories, a few of which may be cited as examples.

consingurant group included such large electrical equipment manufacturers as Westinghouse, Allie-Chalmers and General Electric.

Each of these companies had performed an important phase of the work and, in addition, had worked on a number of smaller, but exitical, phases and were well qualified to detect unusual inquiries. In line with the request of the Hambattan District, they established a system within their respective organizations to clear, in each case through an officer of the company who was well-informed on atomic energy work, any orders or impulsies even remotely connected with the type of work they had done. These officers, in turn, reported any suspicious incidents to the hambattan District. Also, with the knowledge of the parent corpuny, the Hambattan District established a liniagen directly with the respective subsidiary export companies.

There were other groups of namufacturers who had worked on limited phases of the project or supplied critical equipment, such as the companies in the field of high-vacuum equipment and engineering. These included Kirney Mig. Co., Estional Research Corp., Distillation Froducts, Inc., Bosch Russ Co., and F. J. Stokes Machine Co.





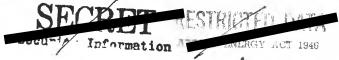


Another example may be found in the radiation instrument field. Namy firms in this field had done work for the Manhattan District or had been formed since the wor by "alumni" of the Manhattan District. Other examples are: International Mickel Co., which had worked on and supplied raterial for the gaseous diffusion barrier; the companies capable of the production of high-purity graphite; three companies in the benyllium processing field; companies producing, or capable of producing, critical chemicals such as hydrofluoric acid or florine; and companies in the high-quality insulator field, such as Coors Forcelain Co. and the Lagy Insulator Co.

A responsible officer was contacted in each of these compantes, as well as companies in other fields not mused, and, in every case, the companies agreed to screen their orders and keep the Faristtan District fully informed.

b. Second Phase.

District policies was to make a complete coverage of the fields which have been mentioned and of other critical fields as well. In practically every case, there were suppliers who were capable of meeting the han-hattan District specifications but had not participated in the work. To make the coverage as complete as possible, lists of these companies were prepared, and an officer of each empany was contacted personally. Thus, a liaison was established to charmed all information on foreign orders or inquiries, which might in any way be related to atomic energy work, into the Hambattan District. The radiation instrument field is





an example. There were twenty-five or thirty small companies in this business and probably not more than one-half of them were associated with the Danhattan District.

c. Third Phase.

The third phase, maintaining liaison with Coveragent agencies, was equally important, as several Covernment agencies wastowardly received direct information on foreign orders and inculries or passed on the experts. Many companies obtained the approval of the State Department, in case there was any question from a political or security standardat, before accepting foreign business. Arrangements were rade with the group in the State Department who bandled such requests, to refer inquiries on certain categories of interest to the Emphattan District for comment before answering the questions reised. Arrangements were also made with the emport licensing group in the Department of State for the Harbettan District to ocreen linease emplications on helium, a material which, though not critical, had a wide and important application in various phases of the project. (A second check on belium was provided through the Durenu of Mines, Department of Interior, which produced the depostic supply of helium and was generally informed of all foreign and demostic orders.) Effective Maison was also saintained with the Office of International Trade, U. S. Department of Cornerce. This office had authority and responsibility for the issuance of expert licenses on a wide range of commodities and had a fairly comprehensive authority for requiring export licenses for the materials and equipment which the Manhattan

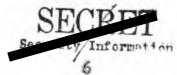




District wished screened. Also, the Office of International Trade had a working arrangement with the Durann of Customs, and with the customs officials at all important parts, who were alerted and served as important sources of information. Originally, the Hanhattan District Limison with Customs was conducted through the Office of International Trade, but later the limison was maintained directly with several Customs offices.

d. Fourth Phose.

The fourth piese of the work involved a definitive study of the items of material and equipment which were critical to atomic every work. The original list which was used as the basis for the establishment of the various limisons mentioned above had been compiled in the Intelligence offices of the Panhettan District. It proved to be a very complete and setisfactory list, its only fault being that it included some items for which a control was not warranted. All items on the list were checked again for their criticality, by discussions with the Harlattan District area engineers and important contractors, and by studies of the turnimation reports and other literature relating to verious phases of the project. Also, the list was considered from a different angle: the possible effectiveness of watching or regulating the flow of a particular natorial from the United States. This entelled a consideration of the shundance of naterial in other countries, the extent of the diasonimation of technical "move or and the capability of other countries to manufacture or process. The list developed in this work was turned over to the Atomic Energy Cornismion and later served as a basic for the Countssion's control program.







3. Status as of 31 December 1946.

The status of the export control activity of the Manhattan District as of 31 December 1946 was as described below.

a. Materials

- (1) Materials under <u>formul control</u> through the Office of International Trade, U. S. Department of Conserce, were:
 - (a) Uranium
 - (b) Thorses
 - (c) Actimium bearing salts and compounds
 - (d) Ohemicals containing artifical radioactive isotopes
 - (a) Radon
 - (f) Radium
 - (g) Polonium
 - (h) Beryllium
 - (1) 6allium
 - (j) Monazite sands
 - (k) Bismuth
 - (1) Cadmius
- (2) Esterial under <u>formal control</u> of the Department of State was:

Told tom

- (3) Naterials under informal control through liabson with industry were:
 - (a) Diffusion purp oils
 - (b) Flummedarhous







- (c) Heavy water
- (d) High purity graphite
- (e) lydro-Cluoric acid
- (f) Nickel-plated pipe
- (a) likely powier
- (h) Tantalum
- (1) Tungsten
- (j) Turgsten cartide
- (k) Vacuus distilled calcius
- (L) Haterials under consideration for informal control

were

- (a) Barius nitente
- (b) Boron and boron steel
- (c) Lanthamm saliza
- (d) Liquid nitrogen
- (e) Lithius berehydride and lithius diberens
- (f) Sodiam, potammiam or Ha-K alloy
- (g) likelected and somet metals
- (h) Reguesius, biga pareto

De Laurente

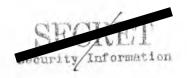
(1) Equipment being placed under <u>formal control</u> by Office of International Trade, U. S. Department of Conserve, was:

Vacuum sotal melting furmoes

(2) Under consideration for <u>formal control</u> through Office of International Trade, U. S. Department of Commorce, were:

SECRETION Information





- (a) Vacuum diffusion pumps
- (b) Leak detectors
- (o) Radiation detection equipment
- (d) Naso spectroseters
- (3) Producers of the equipment listed below had been contacted and had agreed to furnish information on foreign inquiries received by them. The exceptation by the companies concerned was excellent and some foreign orders were not filled when the limbation District so requested. Through this system of lisison it was known that a rather large number of small diffusion pumps and some radiation detective equipment was exported, but the situation was such that the District desired it inadvisable to request refusal of these orders.
 - (a) Backson amplifiers
 - (b) Cable (special servy type)
 - (e) Differential presoure transmitters
 - (d) Diffusion maps
 - (e) High wacam gauges (Nelsod, Fireni and ion gauges)
 - (f) Lapp water coils
 - (g) hase spectrometers, including leak detectors and

line reservices,

- (h) Radiation detection equipment
- (1) Rectifier transferment
- (j) Special insulators
- (k) Special process valves
- (1) Special vacuum tabus

arity Information

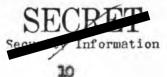
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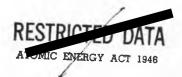


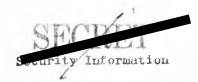
- (a) Torperature regulating instruments
- (n) Vacuum metal nelting furmices
- (c) Vacuum velves
- (4) The following items were under consideration for informal control through links and with industry:
 - (a) Stage pumps for process gas (K-25)
 - (b) Reciprocating pumps for process gas (No25)
 - (c) Magnetic central valvas
 - (d) Coolant pepps
 - (a) Aluminum walkling equipment
 - (f) Boron spraying equipment
 - (g) Metal bellows
 - (h) Milliamenters, large, DC
 - (1) Motor generator sets (above 1500 Et., DC)
 - (j) Fluorine plants
 - (k) Special process valves (E-05)

h. Transfer to Atomic Energy Consission.

dependent almost entirely upon the complete cooperation of the companies concerned. The extent of exceptation obtained was checked by
limison with the Covernment agencies, particularly the Office of
International Trade and the Bureau of Customs. From these checks and
certain intelligence data, it appeared that the cooperation was almost
100% complete and that the majority of the companies were unselfish in
corrying out the desires of the Eanlattan District along these lines.

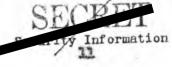




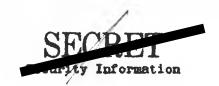


There were, however, two strong indications that the maten could not continue to be effective over a long period of time. For one thing. the Manhattan District was placed in the position of asking a company to give up rather lucrative buniness without being able to guarantee that this same business might not be accepted by an American competitor. SeconDy, there was an indication that a very small number of companies in one or two of the fields was either accepting or planning to accept foreign business against the wishes of the Panesttan District. Obviously more positive action would be necessary since the system would not operate if there were any defections. By the time that such cases had begun to assume any importance, the Atomic Energy Act of 1916 had been ressed and the Atomic Energy Commission had been empointed. The Act have authority to the Commission to deal with such cases. During the interin, the only course open for the languation District was to make full use of the prestige of the Coverment and to enlist the cooperation of the Office of International Trade with their expert control authority.

the responsibility by the Cormission, the contact work was separated from the Manhattan District's Intelligence Office, which was subsequently transferred to the Control Intelligence Agency. A report was prepared on the Manhattan District expert control activities, for the information, and guidance of the Cormission personnel. The Manhattan District turned over to the Atomic Energy Cosmission an extensive liminon control system over items of equipment and material critical in atomic energy work and



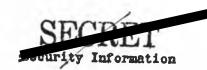




a limited positive control system which made use of the authority of the Office of International Trade.

(The work was continued by the Commission in essentially the same form until late in 1917, when a Commission expert control regulation was issued.)





FURZION IMPELLICANCE SUPLEMENT NO. 3

TO

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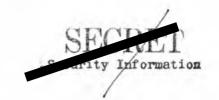
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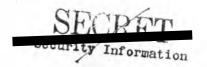
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